CHAPTER 1 – PURPOSE AND NEED

1.1 INTRODUCTION

The City of Lewiston, in cooperation with the Idaho Transportation Department (ITD), proposes to make transportation improvements to both Snake River Avenue and Southway in the City of Lewiston, Idaho. The limits of the proposed improvements on both corridors are shown on Figure 1-1. The proposed improvements to Snake River Avenue begin at the Country Club intersection (MP 3.76) and extend northward approximately two miles to the intersection of the US-12 Dike By-Pass (MP 1.70). The project limits on Southway begin at the Snake River Avenue intersection and extend east approximately 0.75 miles to the 8th Street intersection. The intersections of Southway/Snake River Avenue and Southway/8th Street are currently the only signalized intersections within the project limits.

The objective of the National Environmental Policy Act (NEPA) is to evaluate proposed courses of action and make decisions in the best overall public interest, based on a balanced consideration of the need for safe, efficient transportation; the social, economic, and environmental impacts of the proposed improvements; and the national, state, and local environmental protection goals. This Environmental Assessment (EA) is being conducted to assist local, state, and federal decision makers in evaluating environmental impacts from the proposed action to improve the safety and operation of the Snake River Avenue and Southway corridors. Funding for the project comes from a combination of local and Federal funding sources. Preliminary Engineering funding is included in the Local Urban Section of the Idaho Highway Development Program.

Land uses along the corridors are largely commercial/light industrial, with some residential on Southway east of the Snake River Avenue intersection. Important recreational facilities exist on the west side of Snake River Avenue, including Kiwanis Park, the Levee Boat Ramp and parking area, and the Lewiston Levee Recreation Trail. In addition, the Southway Trail runs along the south side of Southway and a planned park south of the Snake River Avenue/ Southway intersection on the west. See Figure 1-1.

1.2 PURPOSE OF THE PROPOSED ACTION

The purpose of the proposed action is to accommodate current and future traffic capacity and traffic flow, and improve multimodal facilities and utilities along the Snake River Avenue (MP 3.76 to MP 1.70) and Southway corridors.

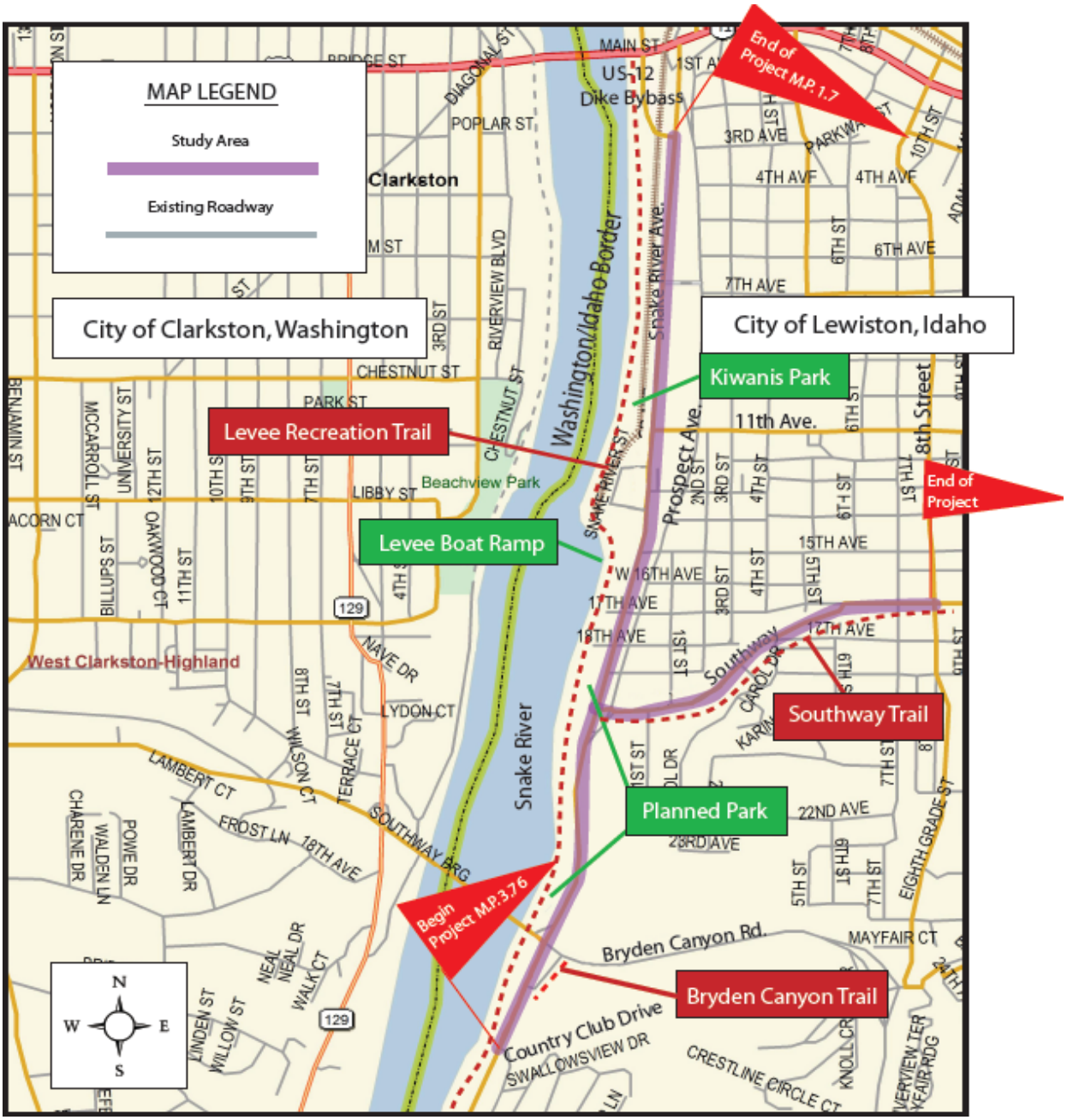

Figure 1-1. Project Location Map.

1.3 NEED FOR PROPOSED ACTION

The primary needs for the Proposed Action are summarized as follows:

- Maintain system linkage
- Accommodate the transportation needs for the expanding future population and traffic growth in the project area
- Improve safety (i.e.; pedestrian, access, intersection operations)
- Correct existing roadway design and storm drain deficiencies to comply with current design and Americans with Disability (ADA) standards

The following paragraphs provide a detailed explanation of each of these project needs.

1.3.1 System Linkage

Snake River Avenue and Southway are both currently two-lane roadways classified as minor arterials in Lewiston's transportation plan. Both of these corridors provide important links in Lewiston's transportation network. Improvements to these corridors are identified in the Lewiston's capital improvement program.

Snake River Avenue is a north-south corridor that runs along the east side of the Snake River in Lewiston. Snake River Avenue is the only continuous north/south route on the west side of Lewiston. The neighboring city of Clarkston, Washington, is located across the river to the west. The cities of Lewiston and Clarkston are dependent communities connected by the US-12/Main Street Bridge and the Southway Bridge. This section of Snake River Avenue provides a north-south link between these two bridges. In addition, Snake River Avenue also provides a connection between downtown Lewiston and Bryden Canyon Road, which serves the Lewiston-Nez Perce County Regional Airport and connects to Thain Road, an arterial that serves the southeast quadrant of Lewiston. South of the city limits, Snake River Avenue provides access to Hells Gate State Park. Snake River Avenue is a critical transportation link providing north/south mobility on the western side of Lewiston. Maintaining the efficiency of this north/south route is an important component of Lewiston's transportation plan.

Southway is an east-west corridor across Lewiston that connects to Snake River Avenue. Most of the developed area on the west side of the city of Lewiston sits on a bluff approximately 80 feet in elevation above Snake River Avenue. The topography provides limited opportunities for connections to Snake River Avenue. Southway is one of only two minor arterials in Lewiston that connects to Snake River Avenue on the west side of Lewiston. Maintaining this connection and providing for additional capacity as traffic volumes increase is an important component of Lewiston's transportation system objectives.

1.3.2 Future Population and Traffic Growth

The Highway Capacity Manual[1] defines the capacity of a facility as the "[maximum] rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of lane or roadway during a given time period under prevailing roadway, traffic, and control conditions." For purposes of this study, the capacities of Snake River Avenue and Southway are defined as the number of vehicles per day each facility can reasonably accommodate. In analyzing the capacities, the concept of Level of Service (LOS) is used. Level of Service characterizes the traffic operations of a facility in terms of such factors as speed, average time delay, travel times, freedom to maneuver, and driver comfort and convenience. Level of Service ranges from A to F, with LOS A representing the best operating conditions (little or no delay or congestion) and LOS F representing the worst operating conditions (extreme congestion, delay, and grid lock with long traffic queues). Figure 1-2 visually demonstrates the differences among the full range of Level of Service. For planning purposes, LOS C is generally considered acceptable in rural areas and LOS D is generally considered acceptable in urbanized areas.

[1]Transportation Research Board, *Highway Capacity Manual* (National Academy of Sciences 2000), page 2-2.

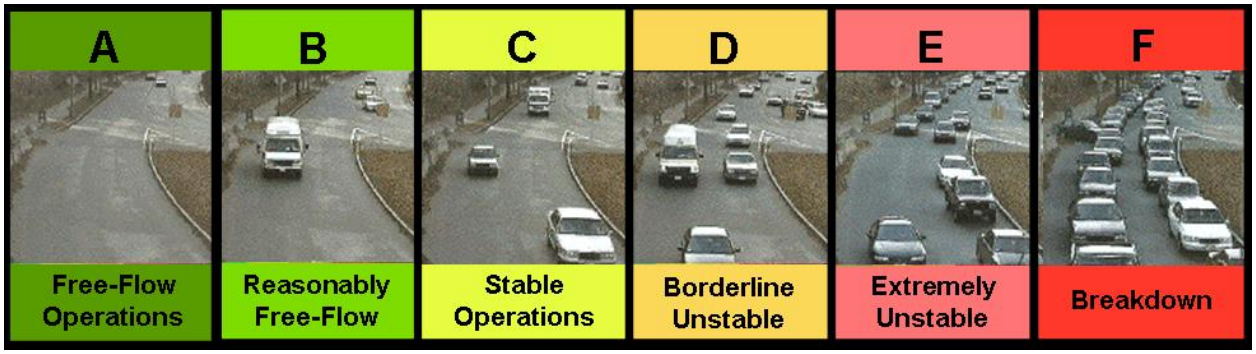

Figure 1-2. Level of Service A Through F.

Projected Population and Traffic Growth

To evaluate existing and future LOS and traffic demands on the Snake River Avenue and Southway corridors, detailed traffic analyses and travel demand forecasting tasks were performed for both corridors. The year 2030 was used as the planning horizon to evaluate future traffic demands. Traffic volumes were projected based on historical population and traffic growth. The 1990 Census showed Lewiston with a population of 28,082 residents. The 2000 Census showed the population had increased to 30,904 residents. This represents a one percent growth rate, compounded yearly over the ten year period. Traffic normally grows at a faster rate than does population. Historically, traffic in the Snake River Avenue corridor has grown approximately two percent per year. The traffic projections on these corridors reflect a continuation of a two percent annual growth in traffic. The traffic analysis and methodology are explained in the appendix of this document. Figure 1-3 shows both the 2004 base year traffic and the year 2030 projected traffic for each section of the corridors.

Roadway Capacity Requirements

The maximum daily traffic volume a two-lane arterial can accommodate at LOS D ranges between 11,500 vehicles for its average daily traffic (ADT) to 18,000 ADT. The maximum ADT volume is largely dependent on the number and frequency of access points, lane widths, shoulder widths, and intersection lane configurations along the corridor. The maximum daily traffic volume at the LOS D threshold for the various roadway segments was estimated based on existing lane configurations, number of accesses, on-street parking, and other features. These estimated thresholds, along with existing and projected 2030 ADTs, are presented in Table 1-1.

Table 1-1. Snake River Avenue Capacity Summary 04/05/05

Snake River Avenue	LOS D ADT* (vpd)	Existing ADT (vpd)	2030 ADT (No-build) (vpd)
Bryden Canyon Road to Southway	18,000	13,000	22,200
Southway to 11th Avenue	13,000	8,800	14,700
11th Avenue to US-12 Bypass	11,500	7,700	12,900
Southway	**LOS D ADT* (vpd)**	**Existing ADT (vpd)**	**2030 ADT (No-build) (vpd)**
Snake River Avenue to 8th Street	14,400	10,200	17,100

*Based on existing intersection LOS, existing ADT, intersection lane geometries, lane width, shoulder widths, and number of accesses.

The 2030 projected volumes on all roadway segments in the corridors exceed the estimated LOS D volume threshold. Based on these projected ADT values, Snake River Avenue and Southway will require capacity improvements to maintain LOS D operations in 2030.

Intersection Traffic Operation

On arterial roadways, the operation of individual intersections often controls the flow of traffic through the entire corridor. Intersection LOS is determined using the "peak hour traffic volumes," which is the one-hour period during the day that the intersection experiences the highest traffic volumes. On these roadways, the peak hour generally occurs during the evening rush hour. Each of the major intersections in the corridors, whether signalized and unsignalized, have been evaluated using existing and projected 2030 PM peak hour traffic conditions. The results of this analysis are presented in Table 1-2.

Table 1-2. Intersection Operations

Intersection	2004 Peak PM Conditions		2030 Peak PM Conditions (No Build)	
	Delay	LOS	Delay	LOS
Snake River Avenue and Bryden Off-Ramp*	4.8	A	18.0	C
Snake River Avenue and WB Bryden Off-Ramp*	7.6	A	26.7	D
Snake River Avenue and Southway	21.1	C	111.6	F
Off-Ramp Terminus and Southway*	5.4	A	9.6	A
Southway and 8th Street	19.1	B	44.8	D
Snake River Avenue and 11th Avenue*	10.3	B	138.9	F
Snake River Avenue and US-12 Bypass*	11.1	B	16.5	C

* Unsignalized intersection-the approach with the highest delay is reported.

As shown in Table 1-2, the intersections of Snake River Avenue/11th Avenue and Southway/Snake River Avenue will both operate at LOS F in 2030 without improvements. Traffic growth will require capacity improvements at each of these intersections in order to accommodate future 2030 traffic at an acceptable LOS.

1.3.3 Safety

A safety evaluation was performed according to Idaho Transportation Department (ITD) standards for both Southway and Snake River Avenue using available traffic data from the years 2000 through 2004. During this five year time period, a total of 59 accidents occurred within these two corridors, resulting in 22 injuries and one fatality. When comparing these results to state averages for accidents on roadways of this type, no specific problem locations were identified. A copy of the safety evaluation performed on each of these corridors is contained in the appendix of this document. However, other safety issues were identified related to the existing roadway deficiencies, which are discussed in Section 1.3.4 – Roadway Deficiencies.

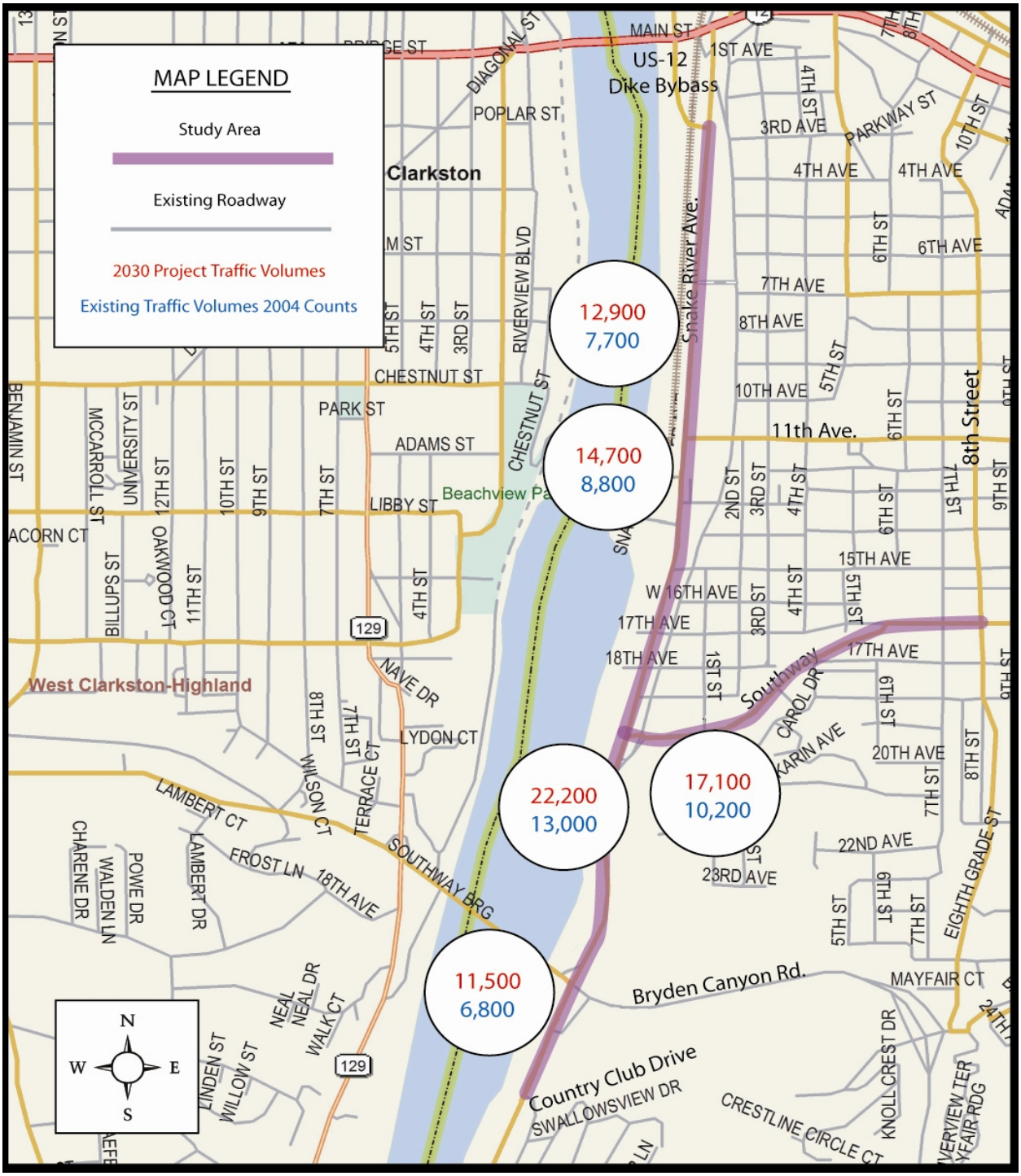

Figure 1-3. Existing and Projected 2030 Traffic Volumes


Snake River Avenue Facing North

1.3.4 Roadway Deficiencies

In evaluating the Snake River Avenue and Southway corridors with respect to current design standards and anticipating the demands that increased traffic volumes will place on the system, the following roadway design deficiencies have been identified:

Access

Access management is critical to any urbanized arterial. Both Southway and Snake River Avenue have evolved from low volume, two lane roads with little or no access management into urban arterials that experience high levels of congestion during peak periods. Access to properties along these corridors is generally unrestricted. In addition, very little curb and gutter exists in the project area. As a result, the majority of the property accesses are continuous across the entire frontage. As traffic volumes continue to increase, the lack of clearly defined accesses will impede traffic flow through the corridors, creating a safety concern. Better access management will be required to accommodate the future traffic volumes on these corridors in a safe, efficient manner.

Lack of Turning Lanes

With the exception of the major intersections on the corridors, there are no provisions for left turns. Vehicles wanting to turn left are forced to wait in the through travel lane for a break in traffic. As traffic volumes increase, this will lead to increased congestion and likely to an increase in rear-end type accidents.

Pedestrian Facilities

The Levee Trail system runs along the east side of the Snake River, parallel with Snake River Avenue. This trail system continues north and south of the project limits and connects to other locations in Lewiston. The Levee Trail is a major attraction for both bicycles and pedestrians, with over 300,000 users per year. Within the project limits, only one pedestrian crosswalk exists across Snake River Avenue to safely accommodate pedestrians and bicyclists wanting to cross the road to access the Levee Trail system. In addition, large sections of both of the Snake River and Southway corridors lack sidewalks for pedestrians. Where no sidewalk exists, pedestrians are forced to walk on the shoulder of the road or cross the street to get to a pedestrian trail or sidewalk. As traffic volumes increase, both of these options will become safety concerns. In addition, existing intersections lack Americans with Disabilities Act (ADA)-compliant ramps and crossing facilities.

Southway/Prospect Intersection

Prospect Avenue intersects Southway at approximately 80 feet east of the signalized intersection with Snake River Avenue. The operations of these two intersections interfere with each other. Specifically, as shown in Figure 1-5, the left-turn movements onto and off of Prospect Avenue conflict with the left-turn storage lane at the Snake River Avenue intersection on Southway. This situation results in increased congestion at the intersection. In addition, the multitude of potential conflict points shown in Figure 1-4 create driver confusion and pose a serious safety problem, particularly as traffic volumes increase at the intersection. Current design standards

recommend that intersections of public streets be spaced at least 300 feet apart or, as a minimum, beyond the limits of any intersection auxiliary lanes. In order to accommodate the future traffic volumes at the intersection of Southway and Snake River Avenue in a safe, efficient manner, this situation will need to be corrected.

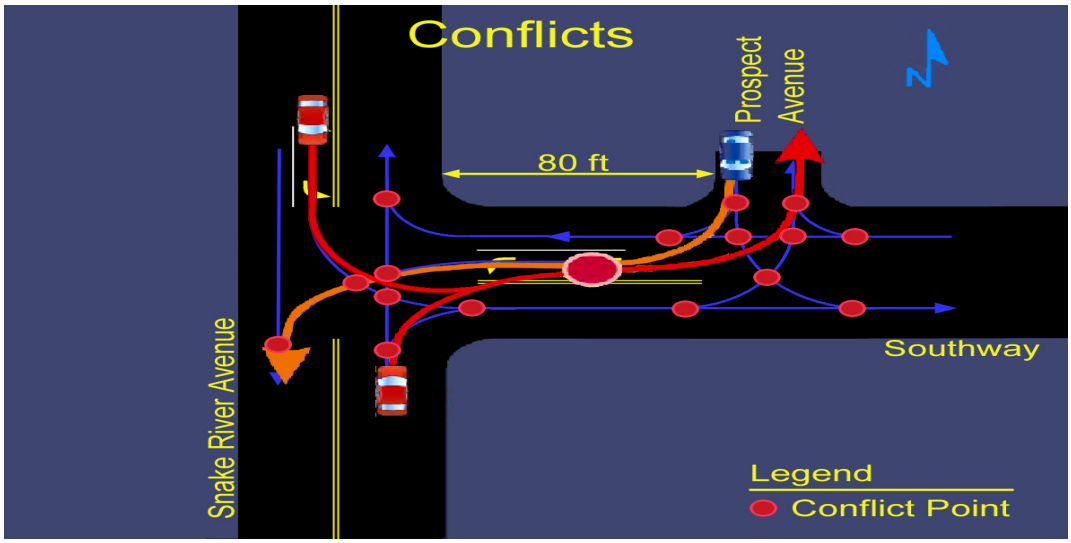

Figure 1-4. Traffic Conflicts.

Snake River Avenue/11th Avenue Intersections

The profile grade of 11th Avenue as it approaches the intersection with Snake River Avenue descends at approximately 12 percent. During icy conditions, Lewiston is often forced to close 11th Avenue, as drivers are unable to stop before the intersection. The profile of 11th Avenue at this intersection is a safety concern and does not meet current design standards.

Drainage and Water Quality

Snake River Avenue runs along the east side of the Snake River. This section of the Snake River is home to a number of threatened species of fish. Storm water in these corridors is generally handled through open ditches. There are several locations where storm water ponding, caused by grading problems, has contributed to pavement deterioration. A limited urban storm drainage system exists around the intersection of Snake River Avenue and 11th Avenue. This system discharges into the U.S. Army Corps of Engineers storm water ponds on the west side of the road. A second 48-inch urban storm drainage system runs along Southway, crosses under Snake River Avenue, and discharges directly into the Snake River without any form of treatment to protect water quality. NOAA's National Marine Fisheries Service staff has expressed concerns to Lewiston city officials over the lack of storm water treatment on this outfall. A better system to treat storm water and protect water quality in the Snake River is needed throughout the project.